# 2007 Boat Ramp Monitor Program Report







Department of Conservation and Recreation ~ Lakes and Ponds Program

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# Massachusetts Department of Conservation & Recreation Lakes and Ponds Program

# **Boat Ramp Monitoring Program**

In response to the increasing spread of invasive non-native aquatic species throughout our water bodies, the Department of Conservation and Recreation (DCR) Lakes and Ponds Program established a Boat Ramp Monitoring Program in 2004. The DCR Boat Ramp Monitoring Program (the program) achieves its goal - to slow, and where possible prevent the spread of aquatic invasive species- in three ways. First, by placing ramp monitors at un-infested water bodies the program helps to prevent introductions and protect their pristine state. Second, by placing ramp monitors at already infested lakes, the program reduces further spread by ensuring that invasive plants are not removed from these water bodies. Third, through a voluntary survey and educational materials, boaters are educated about non-native species and the steps that they can take to prevent further spread. The program is now in its fourth year, and this report provides a summary of the results from the 2007 season.

Non-native or exotic species are plants or animals that are indigenous to other parts of the country or world, and when they are introduced to a new area, they have the potential to disrupt the balance of that ecosystem. Some non-native plants reproduce very rapidly, displacing native species and developing mats at the water's surface that render boating, fishing, swimming and other recreational activities impossible or dangerous.

Non-native plants arrive in our region by a variety of ways, including accidental escape from the aqua-gardening/aquarium trade, intentional release, or by hitching rides from foreign countries in ship ballast water. Once introduced, they are further spread to additional water bodies by hitching rides on boat motors, trailers, fishing gear and in bait buckets. Some non-native plants reproduce vegetatively. This means, that when just one small plant fragment enters a new water body they have the potential to grow into a mature plant and potentially infest the entire lake or pond. When a non-native species is established it is very expensive to control and nearly impossible to eradicate. **Prevention is the key!** 

During the 2007 season, six boat ramp monitors were placed at both infested and uninfested water bodies state-wide, and their goal was to inspect every boat entering or leaving to make sure that no plant fragments or animals (ex. Zebra Mussels) were attached to the boat, trailer or gear. Boaters were given an informational brochure, asked to participate in a voluntary boat inspection and to complete a brief survey. The ramp monitors were posted at boat ramps each Friday, Saturday and Sunday from Memorial Day to Labor Day. The main ramps included: Otis Reservoir (Tolland), Lake Cochituate (Wayland), Wallum Lake (Douglas), Congamond Ponds (Southwick), Long Pond (Freetown) and Lake Sabbatia (Taunton). However, five of the six monitors also rotated between additional ramps including Whitehall Reservoir (Hopkinton), Webster Lake (Webster), Lake Quinsigamond (Worcester), Big Pond (Otis), Lake Pearl (Wrentham), and Winnicunnet Pond (Norton).

# **Boat Ramp Monitor Locations**

The program attempted to choose the highest used boat ramps, (in order to reach as many boaters as possible), and also to select ramps in different regions across the state. Three of the sites were chosen because they currently do not have infestations of invasive, non-native plants (the "Protection" group), and nine lakes were chosen that already have non-native plants (the "Prevention" group), with the goal of preventing these non-native species from spreading to additional lakes. Placing ramp monitors evenly between infested and non-infested waters was preferred; however, our higher priority was to reach and educate as many boaters as possible. Unfortunately, the majority of the high use ramps in the Commonwealth are located on water bodies that are already infested with non-native invasive species.

#### **Protection**

#### Wallum Lake

Located in the heart of Douglas State Forest, this 322-acre water body has deep clarity and a maximum depth of 78 feet. A 2002 plant survey showed that, with the exception of Purple Loosestrife along the shore, there were no non-native aquatic species present, and plant growth in general was scarce. This boat ramp is heavily used, and due to its proximity to Rhode Island and Connecticut, draws numerous out of state boaters. A 2007 fall survey showed that the lake continues to remain free of non-native invasive species, with the exception of the Purple Loosestrife.

Note: The monitor split their time evenly between Wallum Lake and Webster Lake.

Years Monitored: 2004, 2005, 2006, 2007

#### Otis Reservoir

This large 1200-acre water body located in Tolland State Forest, in the Town of Otis, is currently free of non-native aquatic species. Although the water body is relatively shallow, plant growth is somewhat scarce.

Note: The ramp monitor spent 75% of their time here, and 25% of the time at nearby Big Pond boat ramp. Additionally, this ramp was only monitored for five weeks.

Years Monitored: 2004, 2005, 2006, 2007

#### Big Pond

Big Pond in Otis MA is fortunate not to have any known infestations of non-native aquatic species, despite the high boater use. There are two ramps that provide access to the water body, the Big Pond boat ramp and the J & D Marina.

<u>Note:</u> Due to the higher ramp use at Otis Reservoir, the ramp monitor only spent 25% of their time at Big Pond. Additionally, this ramp was only monitored for five weeks. <u>Years Monitored:</u> 2004, 2005, 2006, 2007

### **Prevention**

#### **Lake Cochituate**

Sprawled across three towns (Natick, Wayland and Framingham), this 650-acre lake draws over 200,000 visitors annually to Cochituate State Park, many of whom are boaters. Additionally, this is a favorite location for bass tournaments, water skiing competitions and other public events. As of 2002, this water body has had a large infestation of three non-native species: Eurasian Milfoil (*M. spicatum*), Variable Milfoil (*M. heterophyllum*) and Curly-leaved Pondweed (*P. crispus*). In 2007 a few Water Chestnut (*T. natans*) plants were also reported. DCR's main concern is to prevent the spread of these species to other water bodies in the area, and to educate the large number of boaters who frequent the lake.

<u>Note:</u> The monitor spent two thirds of their time at this ramp, and only monitored here for seven weeks. The other one third of the time was spent at Lake Quinsigamond. Years Monitored: 2004, 2005, 2006, 2007

# **Congamond Lakes**

This 465-acre lake in the town of Southwick has access via a public ramp and is a popular boating and fishing location for residents from both Massachusetts and Connecticut. The lake is stocked each spring and fall, and trout fishing prevails here. The lake is divided into three basins, and there are ramps located on both the north and south basins. In 2005, Asian Clams (*Corbicula*) were documented, and the lake is also infested with both Eurasian Milfoil (*M. spicatum*) and Curly-leaved Pondweed (*P. crispus*).

Note: The ramp monitor spent 100% of their time at this ramp.

Years Monitored: 2006, 2007

# **Long Pond**

This enormous, shallow 1,721-acre lake is the largest natural water body in Massachusetts. It sprawls across the towns of Lakeville and Freetown, with the public access ramp located in Freetown. This pond is a favorite location for bass tournaments, and the pond is heavily infested with both Fanwort (*C. caroliniana*) and Variable Milfoil (*M. heterophyllum*). During 2006, a new infestation of Asian Clam (*Corbicula*) was detected.

Note: The ramp monitor only spent one fourth of their time at this ramp. Years Monitored: 2006, 2007

#### Lake Pearl

Lake Pearl is 212 acre water body in the town of Wrentham and public access is available via a town owned ramp. During the daytime this pond has heavy recreational boat traffic. Most fishermen prefer to fish in the fall or late evening to avoid the crowds.

Note: The ramp monitor spent one fourth of their time at this ramp, over a 6 week time frame.

Years Monitored: 2007

#### Lake Quinsigamond

Lake Quinsigamond is a 772-acre urban water body nestled between Shrewsbury and Worcester. Due to is size, location, presence of two boat ramps and waterfront restaurants, Quinsigamond draws a diverse crowd, including recreational boaters, sail boats, crew teams, jet skis and kayakers. There are several non-native plants in Lake Quinsigamond, including Variable Milfoil (*M. heterophyllum*), Eurasian Milfoil (*M. spicatum*), Fanwort (*C. caroliniana*) and Curly-leaved Pondweed (*P. crispus*).

Note: The ramp monitor spent one-third of their time at Quinsigamond and two-thirds of their time at Lake Cochituate. This ramp was only monitored for seven weeks.

Years Monitored: 2004, 2005, 2006, 2007

#### Lake Sabbatia

Lake Sabbatia is 237-acre lake located in Taunton, MA adjacent to Watson State Park. Access is via a paved boat ramp off Bay Street. Much of the shoreline has been developed, and aquatic vegetation, including non-native Variable Milfoil (*M. heterophyllum*) and Fanwort (*C. caroliniana*), is dense. The ramp monitor also reported Asian Clams (*Corbicula*).

Note: The ramp monitor spent approximately one-fourth of their time at this ramp. Years Monitored: 2007

#### Webster Lake

Webster Lake, located in the town of Webster, is over 1,270 acres and there two public boat ramps. This water body receives very heavy boat use, especially on the weekends during the summer. Unfortunately, in addition to several species of non-native plants (Fanwort, Variable Milfoil and Eurasian Milfoil) Webster Lake is one of the few water bodies in the state with non-native Asian Clams (*Corbicula*). In an effort to prevent the spread of Corbicula to additional water bodies, the ramp monitor emphasized the importance of disposing of bait buckets, live well water and engine water well away from shore.

Note: The ramp monitor divided their time between this ramp and Wallum Lake.

Years Monitored: 2005, 2006, 2007

#### Whitehall Reservoir

Located in Hopkinton, MA, this 573-acre water body is a favorite for location for fishermen. It is relatively shallow (average depth is 6 feet) and the speed limit on the water body limits waterskiing and other water sports. Unfortunately, a large infestation of non-native species threatens the health of the reservoir. The monitor's goal was to stop the spread of these species to other water bodies, to educate boaters, and to prevent the introduction of any additional non-native species.

Note: The monitor spent one fourth of their time at this ramp.

Years Monitored: 2004, 2005, 2006, 2007

#### Winniconnet Pond

This popular 148 acre pond in Norton has two public boat ramps, a dirt ramp onto the Snake River (the outlet), and a paved ramp onto the pond (Bay Street). The pond is generally shallow (6-11 ft), and the dense plant growth has historically been managed with a harvester. Asian Clams were documented in the pond during 2007. Note: The ramps on this pond were only monitored for a few days.

Years Monitored: 2007





Did y     Were     If so,     Wha	2	4	3)			#	dcr Mussachuseits
(Please do not write below this line. This are is to be completed by the boat ramp monitor.)  Did you obtain permission to inspect the boat and trailer?  Were any plant fragments or aquatic animals present on the boat?  YES  What species did you find?  Comments:	Thank you for your time!	Are you willing to take the time to inspect and/or wash your boat after visiting a lake?  If not, why?	Prior to today, were you aware that one of the main ways that invasive plants enter a lake or pond is by hitching rides on boat trailers, motors and other gear?		What are the last two water bodies that your boat has been in?	Boater Survey	Department of Conservation and Recreation Lakes and Ponds Program Boat Ramp Monitoring Program 2007
amp monito YES YES	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	a? YES	YES	;	YES		Date Location
NNO ST	2	8	S		5		
	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		***	Market Services	Commission		

# **Results**

During the fourth season of the Boat Ramp Monitoring Program, 2932 surveys were collected from boaters statewide at 12 ramps.

The survey results are summarized below, with details presented in Tables A and B.

- o 76% of boaters were aware of invasive species. (see Graph 1)
- Milfoil was the non-native species that people were most familiar with.
   Other species included: Zebra Mussels, Asian Clam, Hydrilla, Purple Loosestrife, Water Chestnut, and Snakehead Fish. (see Graph 2)
- o 71% of boaters understood that plants are spread by boats. (see Graph 3)
- o 97% of all boaters surveyed were willing to wash their boats. (see Graph 4)
- Over 99% of boaters surveyed were willing and able to participate in the inspection. (see Graph 5)
- 2844 boats were inspected for plant fragments.
- 30% of all the inspected boats had plant fragments. (see Graph 6)
   Many boats were transporting more than one species at a time.
- 33% of the plant fragments removed from inspected boats were non-native. (see Graph 7)
   This resulted in 293 saves. A save occurs when non-native plants are removed from a boat/gear prior to it entering the water, or leaving the ramp.

The total number of surveys collected at each ramp are listed below. (See Table B) Overall, the greatest number of surveys were collected at Congamond Lakes (1135), followed by Whitehall Reservoir (391), Long Pond (375), Wallum Lake (254), Lake Sabbatia (209), Webster Lake (199), Otis Reservoir (123); Lake Pearl (88), Lake Cochituate (78); Lake Quinsigamond (40), and lastly Big Pond (27). The two ramps on Winnicunnet Pond were monitored for a few days and 13 surveys were collected.

It is important to note that these numbers are not a true reflection of how busy the individual ramps are. Five of the boat ramp monitors divided their time between two to four ramps, and the sixth monitor remained at Lake Congamond all of the time. Additionally, in July the program dropped down from six to four ramp monitors. Therefore Otis Reservoir, Big Pond, Lake Cochituate and Lake Quinsigamond were only monitored for a portion of the season.

Table A Total results

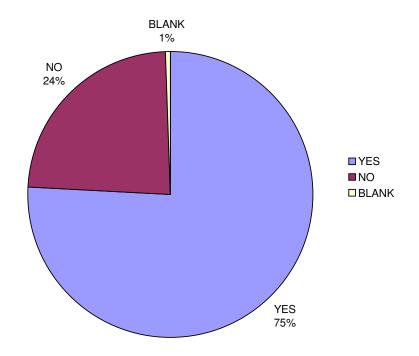
Question	yes	no	blank	total
Prior to today, have you heard of AIS?	2220	693	19	2932
Are you aware boats spread AIS?	2077	835	20	2932
Are you willing to wash/inspect your boat?	2825	87	20	2932
Permission obtained to inspect boat and trailer?	2844	6	82	2932
Were any plant fragments found?	866	1978	0	2844
Were the fragments found non-native?	293	434	198	925

**Table B** Results by ramp

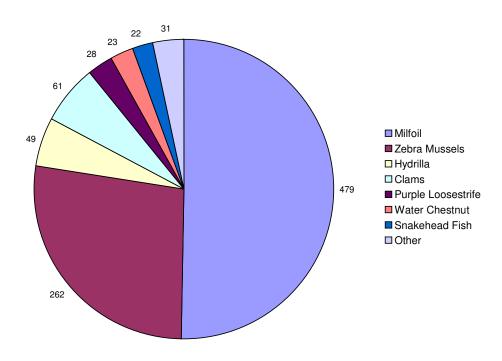
	_	Aware of			Aware					
	Ramp	AIS	Not		boats	Not		Willing to	Not	Depends
	Total	of state	aware	Blank	carry AIS	aware	Blank	wash/inspect?	willing	Blank
Big Pond	27	24	3	0	25	2	0	27	0	0
Cochituate	78	68	10	0	54	24	0	78	0	0
Congamond	1135	787	348	0	763	372	0	1101	34	0
Long Pond	375	299	76	0	261	114	0	366	9	0
Otis	123	83	21	19	95	9	19	104	0	19
Pearl	88	79	9	0	74	14	0	82	6	0
Quinsig.	40	30	10	0	22	18	0	39	0	1
Sabbatia	209	145	64	0	122	87	0	200	9	0
Wallum	254	201	53	0	205	48	1	253	1	0
Webster	199	153	46	0	166	33	0	199	0	0
Whitehall	391	341	50	0	284	107	0	363	28	0
Winnicunnet	13	10	3	0	6	7	0	13	0	0
	2932	2220	693	19	2077	385	20	2825	87	20

				In		With				
	Ramp	# Boats		water/	# Boats	out		Plants	<b>Plants</b>	Plants
	Total	inspected	Declined	blank	w / plants	plants	Blank	native	exotic	unknown
Big Pond	27	27	0	0	2	25	0	2	0	0
Cochituate	78	78	0	0	24	54	0	11	13	0
Congamond	1135	1134	1	0	445	689	0	292	89	63
Long Pond	375	374	0	1	33	341	0	26	2	5
Otis	123	122	1	0	6	116	0	5	1	0
Pearl	88	86	1	1	36	50	0	24	7	5
Quinsig.	40	40	0	0	13	27	0	6	7	0
Sabbatia	209	192	0	17	76	116	0	9	65	2
Wallum	254	224	0	30	45	179	0	12	5	28
Webster	199	172	0	27	40	132	0	12	7	21
Whitehall	391	384	2	5	140	244	0	34	92	14
Winnicunnet	13	11	1	1	6	5	0	1	5	0
	2932	2844	6	82	866	1978	0	434	293	138

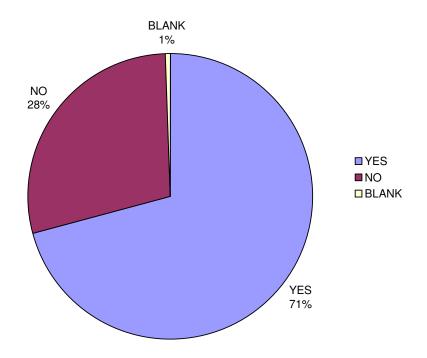
**Graph 1** Prior to today, had you heard of invasive species?



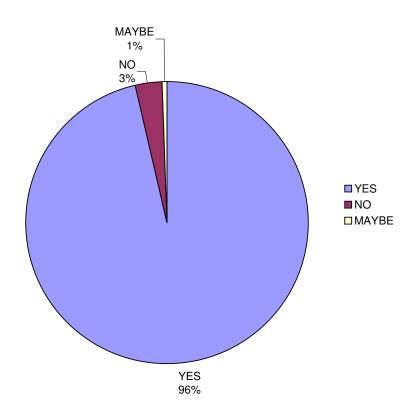
Graph 2 If so, which species?



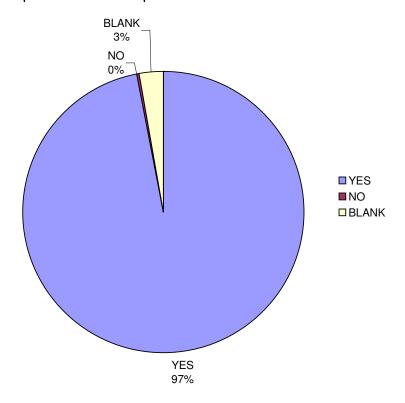
**Graph 3** Prior to today, were you aware that one of the main ways that invasive plants enter a lake or pond is by hitching rides on boat motors, trailers and other gear?



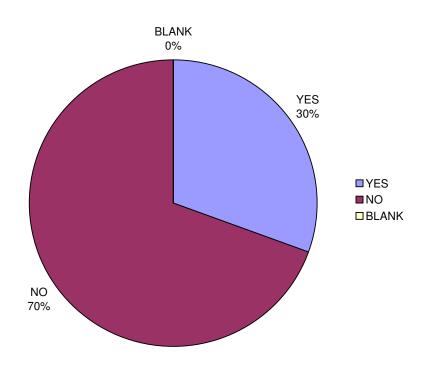
Graph 4 Are you willing to inspect and wash your boat after visiting a lake or pond?



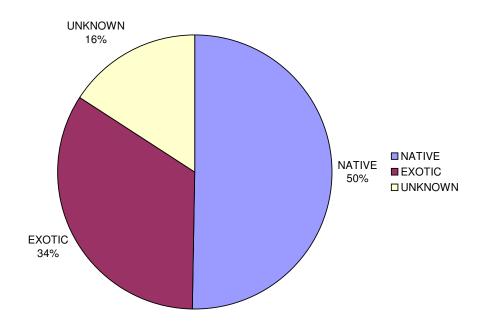
Graph 5 Did you obtain permission to inspect the boat and trailer?



Graph 6 Were any plant fragments present on the boat or trailer?



**Graph 7** Were any of the plant fragments non-native?



# **Discussion**

Based on this survey, it appears that three quarters of the boaters (76.2 %) were aware of non-native species; however, some boaters did not realize that non-native species can be spread by boats, trailers and gear.

The species that boaters were most familiar with was milfoil and zebra mussels. Many survey participants mentioned learning about these species through fishing clubs, from other ramp monitors, and from visits to Maine. Other species mentioned by boaters, included Fanwort, Water Chestnut, Hydrilla, Asian Clams, Purple Loosestrife, Snakehead fish, and Didymo. In addition, several boaters were familiar with terrestrial non-native species including Norway Maple, and Burning Bush.

Almost all the survey participants (97%) were willing to inspect/wash their boats prior to entering or leaving water body. Overall, 87 boaters stated that they would not wash/inspect their vessel. The reasons given included (in order of frequency): only use the boat in one location, laziness, belief that the plants dry/die between uses, they don't own the boat (rented/borrowed), inconvenience, they are too rushed, and the fact that the boat is old and therefore doesn't need to be cleaned. Some boaters were willing to inspect their boats, but because wash stations were not located near the ramp, they were not willing to wash their boats. Twenty boaters said they would wash their boat, only if they were going to go to a new water body.

During 2007, 99.8% of the boaters surveyed were willing to participate in a voluntary inspection. In 82 cases, the boat ramp monitor left the survey blank, or explained that the boat was already in the water, and only six boaters out of 2932 outright declined an inspection. There was 100% compliance at seven of the twelve ramps, and at five of the ramps only 1 or 2 people declined an inspection. The ramp monitors were asked to speculate why those boaters were unwilling to participate, and they indicated that some refusals may have been be due to crowding at the ramp, the haste to launch during fishing tournaments and in two cases there was a language barrier.

Of the 2844 boats that were actually inspected, 866 (30.4%) were transporting plant fragments, and many of these boats were carrying more than one species. In 293 (33.8%) instances, the plants were identified as non-native and were removed and disposed of. These were considered "saves" because the removal/disposal of these plants prior to the boat entering or leaving a water body potentially prevented a new introduction or the additional spread of that species.

These cost-saving measures potentially spared the Commonwealth thousands of dollars in invasive species management, had any of these 293 plants become established in the water body and had control measures been implemented. For instance, Wallum Lake is one of our "protection" lakes, and despite high boater use, a 2007 fall survey determined that this water body has remained free of non-native aquatic species. Since 2004, more that fifteen boats have attempted to launch while carrying non-native plants. Each time, the plants were removed and disposed before the boat entered the water body. The effort of the boat ramp monitors, and the

willingness of the boaters to participate in the inspection, have played a key role in keeping Wallum Lake free of non-native species.

Whitehall Reservoir (Hopkinton) and Congamond Pond (Southwick) attracted the largest diversity of boaters from other water bodies and/or states, whereas the other ramps tended to draw a more local crowd (See Appendix A). Many of the water bodies that boaters claimed their vessel was last in, are water bodies known to be infested with Zebra Mussels (ex. Lake Champlain, Twin Lakes).

# Recommendations

Many of the survey participants made suggestions on how to encourage boaters to inspect their boats. They suggested that in certain locations, the implementation of a "Weed Check" area would be beneficial. A "Weed Check" area would serve both as a reminder to the boaters, and would provide them a place to pull safely out of the lane of traffic to conduct the inspection. They also requested that plant fragment bins be made available for disposal of any removed plant/animal debris. Several boaters suggested that installing a foot-pump or solar powered washing station at the ramp would be helpful.

Another suggestion, made by the ramp monitors, was to hand out boat stickers to participants. These stickers could contain a message such as, "I care about our lakes and check my boat for hitchhikers!" This would help the ramp monitors identify boaters that they have already surveyed. Stickers may also remind boaters of the commitment they have made to protect our water bodies by inspecting/cleaning their boats each time they launch or leave a lake.

To determine the lasting impact that the Boat Ramp Monitor Program has had over the past four years, it may be interesting to observe boater behavior at several ramps that have been consistently monitored (ex. Cochituate, Whitehall, Douglas). During 2008 ramp monitors could be placed at these ramps for several days to discreetly document the percentage of boaters who check their boats without being reminded.

Many boaters listed a water body known to be infested with Zebra Mussels as the last place they launched their boat (ex. Lake Champlain, Twin Lakes). During 2008, ponds that had been visited by boats that were recently in water bodies infested with Zebra Mussels will be carefully surveyed for the presence of this species. Although the microscopic larval stage of Zebra Mussels are not visible to the naked eye, rocks, piers, buoys and possibly settling plates will be examined for the presence of adult Zebra Mussels.

# **Appendix One: Boat Traffic**

The following are the responses given at each ramp to the question, "What was the last water body that your boat was in?". The responses were often hard to decipher, or were spelled phonetically. Additionally, it is not always clear what state the last water body visited was located in. Therefore the responses below have been entered exactly as they appeared on the survey forms. Water bodies that are known to be infested with Zebra Mussels are in red font, those with Asian Clams are in blue font.

#### **Big Pond**

Big Pond Center Pond Cheshire Reservoir Congamond Ponds

CT River

Lake George

Shaw Pond

Goose Pond Greenwater Reservoir

Hampden Reservoir
Lake Haviland
Lower Highland
Littleville Lake
Otis Reservoir

**Cochituate** 

Ashland Reservoir

Lake Boon

Lake Champlain

Doug Pond Dudley Pond

Hopkinton Reservoir

Ocean

Quinsigamond Lake Washakum Webster Lake Whitehall Reservoir

# **Congamond Ponds**

Air Lake
Ashmere Lake
Aschument
Bashon
Bass River
Banhyam
Benedict Pond
Big Alum
Big Benton Pond
Bolton Lake
Brimfield Reservoir
Candlestick Lake
Candlewood
Cedar Lake

Lake Champlain (4) Charles River

Chataguag Chicopee River Cliff Pond Conneticut River

Congamond Pond Coventry Crystal Lake Farmington River Res. Five Mile Pond Florida Gardener

Lake George (NY)
Glen Echo Lake
Goose Pond
Great East Lake
Greenwater Reservoir
Hampden Pond
Highland Lake
Holland Pond
Indian Lake

Kabakasaki (ME), Lake Lashaway Littleville Lake Long Island Sound

Long Pond (Lakeville)
MacDongal Lake
Mansfield Hollow
Massapoag
Merrimack River

Metaconic

Modest Reservoir Mooseup Lake Morise Pond New London Niantic (VT) Ocean Old Saybrook Lake Onota

Lake Ontario
Otis Reservoir
Oxbow Lake
Patchaug
Pequot Pond
Pine River Pond
Pontoosuc Reservoir
Pt. Judith

Quabbin Reservoir Rangley (ME) Red Bridge (ME) Rainbow Reservoir Richmond Pond Roadside Pond Rock Pond Sakandoya
Lake Saranak
Sebago Lake
Silver Lake
Spofford Pond (NH)
Toddy Pond (ME)
Twin Lakes (CT)
Wallum Lake
Lake Whitingham
(VT)
Wickiboy
Lake Winnipesauke

Worata

Lake Wyola

Lake Zoar

# **Long Pond**

Aschumet Aschunet Ashland (CT) Ashland Reservoir Assonet River Canada

Canton Reservoir Champlain (2) **Charles River** Cliff Pond Cochituate Comasakee (ME) Conneticuit River Crescent Lake (ME) Crystal Lake (NH)

Falls Pond Lake George (NY) Glen Charlie **Great Lakes** 

Hopkinton Reservoir

Johns Pond Lake Littleton (PA) Locke Lake (NH) Long Lake (ME), Long Pond (Brewster) Long Pond (Harwich) Manoosenoc (NH)

Mellau (NH) Mashpee Milton (NH)

Monponsett (Halifax) Nippeneticuit Nocochoke Norton Reservoir

Ocean

Ossipee (NH), Panther Pond (ME)

Lake Pearl Quinebaug

Lake Quinsigamond

Sabbatia

Sampson's Pond

Sandy Pond (Plymouth)

Sebago Lake Sharon Lake Snipatuit Stafford Pond **Taunton River** Tenessee River (AL)

Thompson Lake (ME) Tispaquin Watson Pond South Wattupa Whitehall Reservoir

Wild Pond Winnipesauke

# **Otis Reservoir**

Big Pond

Brimfield Reservoir

Lake Buel

Lake Champlain (VT)

Center Pond Congamond Conneticuit River

Crystal Lake (NH)

DAR

Farmington River

Forage Glen Echo Goose Pond Goshen Reservoir Greenwater Reservoir **Great Herring** 

Hampden Hamilton Haviland Pond Highland Reservoir

Housatonic **Humond Pond** Lake Littleville

Mansfield Hollow Mashapug (CT) Massapoag Mesqumicut river Neponset Reservoir, Onota Reservoir Otis Reservoir

Oxbow

Pamelton Reservoir Pomickwood Lake (ME) Pontoosuc Reservoir Quabbin Reservoir Rainbow Reservoir

Scranton Shumet 5 Mile Pond Stockbridge Bowl

Tulle

Tupper Lake West Pond Winneboa Winnipesauke

## Lake Pearl

Blackstone River Charles River Lake Cochituate Conway Lake Conway (NH)

Echo Lake (RI)

Lake George (NY) Long Pond (Lakeville)

Long Lake (ME) Long Pond Manchaug

Marameshe (Plainville)

Mashpee

Merry Meet (NH) Sebago (ME) Monponset Nippeneticuit Norton Reservoir

Ocean

Otis Reservoir Quabbin Reservoir

Sabbatia Squam (NH) Sunapee (NH) Webster Lake Whitehall Reservoir

# Quinsigamond

Hopkinton Reservoir Indian Lake Quinsigamond Webster Whitehall

# Sabbatia Lake

Agawam River Ames Knoll Lake Beach Pond (RI) Canada

Cannon Lake (NH)
Canton Reservoir
Lake Champlain

Charles River
Lake Cochituate
Cook Pond
Cranberry Pond
Falls Pond

Foxboro Reservoir Johns Pond Knob Pond

Long Pond (Lakeville)

Mashpee Maunpark New Found Lake Nippenicket Norton Reservoir

Ocean
Olden Pond
Lake Ontario
Lake Pearl
Peters Pond

Ponkapoag Pond Prospect Pond

Quaboag Pond Ramshorn

Pond Reeds Lake Rico Sabbatia

Sampson's Pond Sebago (ME) Snake River Snipatuit

Spaulding Pond (ME)
Spectacle Pond
Taunton River
Tispaquin Pond
Wallum Lake
Waupog Pond
Watuppa
Webster Lake
Westport
Winnicunnet
Winnipesauke
Winthrop (ME)
Woods

Winthrop (ME)

S. Tupper

# **Wallum Lake**

Bonehill Buffemville Reservoir Lake Cochituate Dulmore (VT) Echo Lake Eddy Pond Falls Pond Flat River (RI) Indian Lake Keech Long Lake Manchaug Pond Mashpee/Wakeby Moosehead Lake Nashua River North Smithfield Res.

Norton Reservoir

Ocean
Lake Pearl
Quaboag Pond
Quaddick Pond
Lake Quinsigamond
Sebago (ME)
Singletary Lake
Slatersville Lake (RI)
Squam Lake
Wallum Lake
Waterman
Webster Lake

West Thompson Dam Whalom Lake Whitehall Reservoir Lake Winnipesauke

# **Webster Lake**

Lake Attitash
Belgrade Lakes
Big Alum Pond
Black Pond
Brimfield Reservoir

Buffemville Reservoir

Bungee (CT)
Charles River
Lake Cochituate
Concord River
CT River
Lake Coventry
Crystal Lake
Dudley Pond
East Twin Lake

Lake George

Greenwood Lake (SC) Highland Lake Indian Lake

Johnson's Pond (RI) Long Pond (Lakeville) Manchaug Pond

Mansfield Hollow Dam Mashpee / Wakeby

Monoganela River (PN)

North Pond Norton Reservoir

Onset

Quabbin Reservoir

Quaddick Quassett (CT) Lake Quinsigamond Red Bridge Impoundment

Sebago (ME)
Lake Shady Point
Lake Singletary
Squam Lake
South Pond

South Watuppa Pond Stafford Pond (RI) Lake Sunapee Swift River

Thompson River (CT)

Wallum Lake
Washakum
Webster Lake
Whitehall Reservoir
Wilson's Reservoir
Lake Winnipesauke

# Whitehall Res.

Echo Lake

Flint Pond

A-1 Pond (a.k.a. Mill Pond or Stumpy Pond)
Ashland Reservoir

Assabet River Barehill Pond Bartlett Pond Barton Pond (NH)

Big Chauncy

Bigalow Hollow (CT) Blackstone River Lake Boon

Browning Pond Buckmaster Pond Buffemville Reservoir

Cliff Pond

Lake Champlain Charles River Chauncey Lake

China Lake (ME) Lake Cochituate Concord River

Damon's Pond (Rutland)

Duck Pond
Dudley Pond
Dighton Park
Echo Lake (RI)
Electric Pond

Faher Pond (Oxford)

Field Pond Flint Pond Lake Gardner Lake George (NY) Heard Pond

Hopkinton Reservoir

Indian Lake

Long Pond (Lakeville) Long Pond (Rutland) Mashpee/Wakby

Marston Mills Masspenock Meadow Pond

Mirror Lake (Wretham)

Misquaket

Moosehorn Pond
Monponset Pond
Morgan Pond
Nashua River
Neubenisett (NH)
Nipmuc Pond
North Pond
Norton Reservoir
Oakham Reservoir

Ocean Lake Onota Ossippee (NH)

Pamtaucheti Lake (NH) Pawtuckaway (NH)

Lake Pearl

Penningiwasset (NH) Popanu (Canada) Power Mill Pond (NH)

Pratt Pond

Quabbin Reservoir Quaboag Pond Lake Quinsigamond

Lake Ripple Rocky Pond Sacco River

Lake Sebago (ME) Shawsheen River Lake Sherriet (RI) Lake Shirley Shupils Pond Lake Singletary

Slatersville Reservoir Slocum River

Snake River Squam (NH) Stafford Pond (RI) St. Lawrence River

Stump Pond

Sudbury Reservoir Tuckaway Lake (NH) Umbagog Lake (NH) Upper Kimball (NH)

Upper Mystic Upton Pond Wallum Lake Wattuppa Webster Lake

Whitehall Reservoir White's Landing Lake Winnipesauke Lake Winona (VT) Lake Winthrop

Winnicunnet Pond
Lake Nippeneticut
Lake Sabbatia
Sandy Pond
Singletary Lake
Snake River
Winnicunnet Pond